

There is no such thing  
as a software patent

# Kim Rubin

BSEE/CS

45 years technology experience

4 startups

100+ inventions

Patent Agent

Author

Taught computer security

Book shelf for patents



GRANTED



REJECTED



There is no such thing  
as a software patent

7.5

7.4

# 7.3

There is no such thing as a software patent.

There is no such thing as a rubber patent.

There is no such thing as a steel patent.

There is no such thing as an electricity patent.

There is only ... a patent.



*Czapinski v. St. Francis Hosp., Inc.*, 2000 WI 80, ¶  
19, 236 Wis. 2d 316, 613 N.W.2d 120.

v.

The Federal Food, Drug, and Cosmetic Act  
(FDCA), ch. 675, 52 Stat. 1040, as amended, 21  
U.S.C. § 301 *et seq.*, iSee 21 U.S.C. § 355(a); *Eli  
Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661,  
665—666, 674 (1990).

# Article I, Section 8

8. *“To promote the Progress of Science and useful Arts, by securing for limited Times to Inventors the exclusive Right to their Discoveries.”*

# Article I, Section 8

8. *“To promote the Progress of Science and useful Arts, by securing for limited Times to Inventors the exclusive Right to their Discoveries ... except for software.”*

# Jefferson, Congress, SCOTUS and MPEP

3. “The Act embodied Jefferson’s philosophy that ‘ingenuity should receive a liberal encouragement.’ 5 Writings of Thomas Jefferson, 75-76 Washington ed. 1871). See *Graham v. John Deere Co.*, 383 U.S. 1, 7-10, 148 USPQ459, 462-464 (1966). Subsequent patent statutes in 1836, 1870, and 1874 employed this same broad language. In 1952, when the patent laws were recodified, Congress replaced the word ‘art’ with ‘process,’ but otherwise left Jefferson’s language intact. The Committee Reports accompanying the 1952 act inform us that Congress intended **‘statutory subject matter to include any thing under the sun that is made by man.’** S. Rep. No. 1979, 82d Cong., 2d Sess., 5 (1952); H. R. Rep. No. 1923, 82d Cong., 2d Sess., 6 (1952)”

# 2011: AIA and Patentable Subject Matter

The only change to the law  
regarding patentable subject matter  
in the AIA:

“Any strategy for reducing,  
avoiding, or deferring tax liability,”

is not useful.

Software is not a “thing?”  
Data is not “tangible?”

OK, everybody in this room who does not own a cell phone and has never used a computer, raise your hand.

# Article I, Section 8

“To promote the Progress of Science and **useful** Arts, by securing for limited Times to Inventors the exclusive Right to their Discoveries.”

“Don’t call it a computer,”

I used to tell my engineers.

The meaning of a “computer”  
is so broad that the word itself  
is meaningless.

“Computer” is directed to ...

everything from  
an abacus, a loom, logic  
in a microwave oven, the  
control of a 787 Dreamliner,  
to the search for life on an  
extra-terrestrial planet.

“Computer” is but a grammatical placeholder, like “device,” informing us of nothing.

If you don't have a computer,  
then you don't have a  
program.

You have  
**METHOD STEPS.**

METHOD  
v.  
ALGORITHM  
v.  
PROCESS

“A claim must be directed to one of the four patent-eligible subject matter categories: process, machine, manufacture, or composition of matter.”

— MPEP 2106

A “process” is patentable.

Let’s ask the experts in “process”

...

“True love is a process”

— Ricarco Mantalban

“The whole of life is a process of learning.” — Jiddu Krishnamurti

“Fighting monsters is a risky process.” — Friedrich Nietzsche

Clearly, a “process” is patentable.

Algorithms are computer programs – software.

Let's consider algorithms for data encryption such as ...

## **DES**

*U.S. Patent: 3,962,539*  
*Filed: February 24, 1975*  
*Issued: June 8, 1976*  
*Inventors: Ehrsam et al.*  
*Assignee: IBM*

This patent covered the DES cipher and was placed in the public domain by IBM. It is now expired.

## **Diffie-Hellman**

*U.S. Patent: 4,200,770*  
*Filed: September 6, 1977*  
*Issued: April 29, 1980*  
*Inventors: Hellman, Diffie, and Merkle*  
*Assignee: Stanford University*

This is the first patent covering a public-key cryptosystem. It describes Diffie-Hellman key agreement, as well as a means of authentication using long-term Diffie-Hellman public keys. This patent is now expired.

## **Public-key cryptosystems**

*U.S. Patent: 4,218,582*  
*Filed: October 6, 1977*  
*Issued: August 19, 1980*  
*Inventors: Hellman and Merkle*  
*Assignee: Stanford University*

The Hellman-Merkle patent covers public-key systems based on the knapsack problem and now known to be insecure. Its broader claims cover general methods of public-key encryption and digital signatures using public keys. This patent is expired.

## **RSA**

*U.S. Patent: 4,405,829*  
*Filed: December 14, 1977*  
*Issued: September 20, 1983*  
*Inventors: Rivest, Shamir, and Adleman*  
*Assignee: MIT*

I can't imagine anything less a  
“thing” than multiplying:

18532395500947174450709383384936679868383  
424444311405679463280782405796233163977

by

20747222467734852078216952221076085874809  
96474721117292752992589912196684750549658  
310084416732550077

Without these mathematical algorithms we would not have the most important technology developed in the past 40 years.

*No web, no e-commerce,  
no electronic privacy.*

Clearly mathematics, numbers  
and software fail the **useful** test in  
the constitution.

?

We can always use the  
prior art — trading shells.

Ah! We have to have  
“**significantly** more”

*Question:* exactly how large  
does a prime number have to  
be in order to be “significant?”

Put “significantly” in a claim and see how far you  
get.

“True love is a process”

— Ricarco Mantalban

“The whole of life is a process of learning.” — Jiddu Krishnamurti

“Fighting monsters is a risky process.” — Friedrich Nietzsche

PROCESSES are patentable.

## DES

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## Public-key cryptosystems

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*Assignee: MIT*

Determining the differences between

METHOD

v.

ALGORITHM

v.

PROCESS

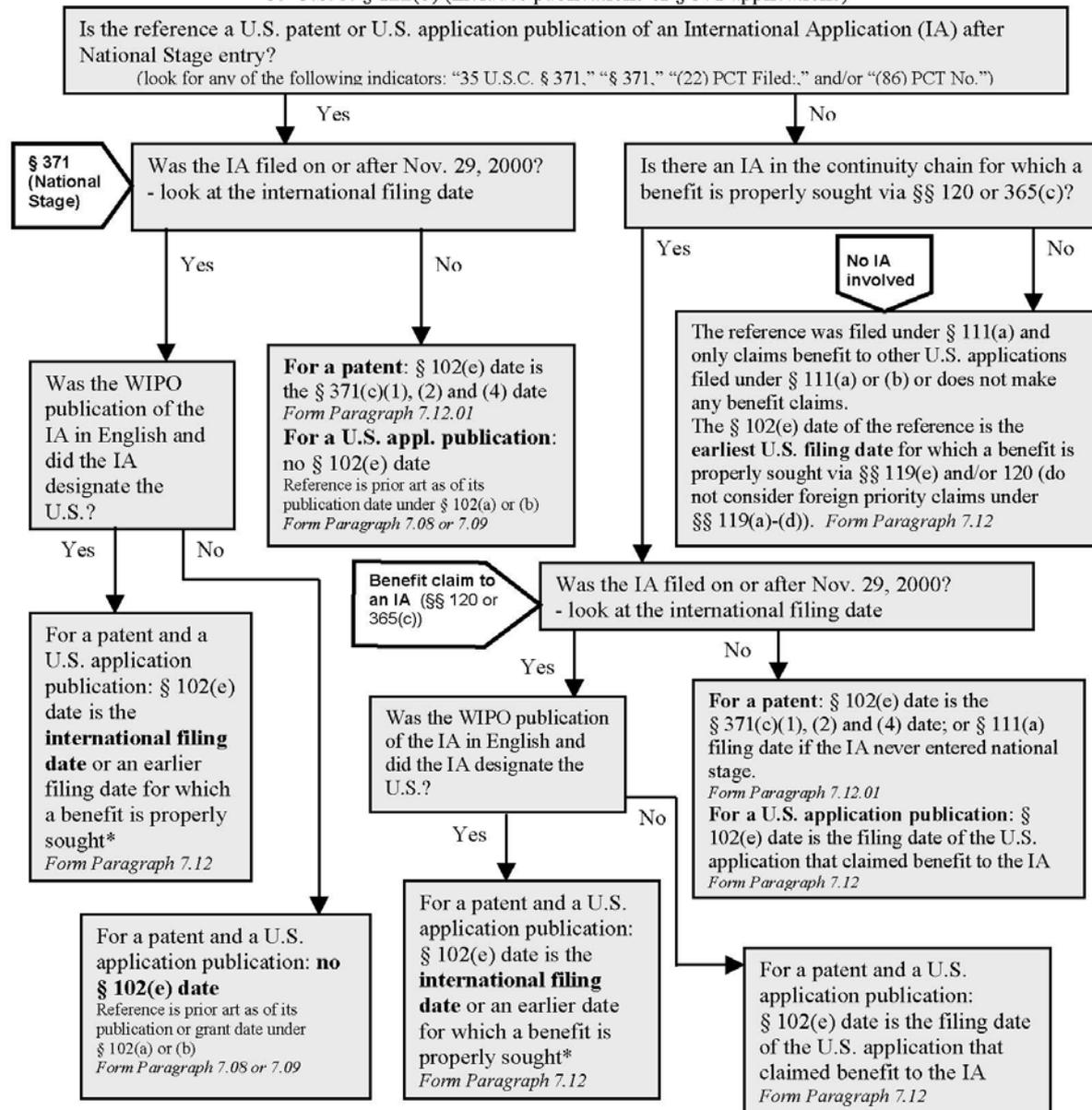
v.

SOFTWARE

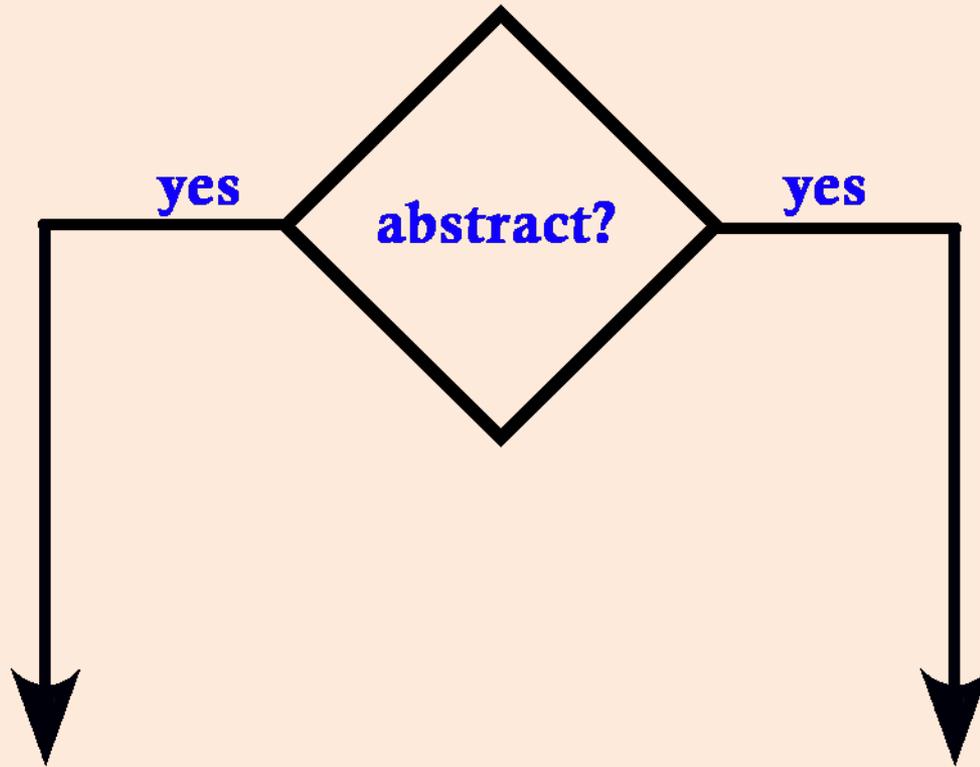
is like parsing clouds.

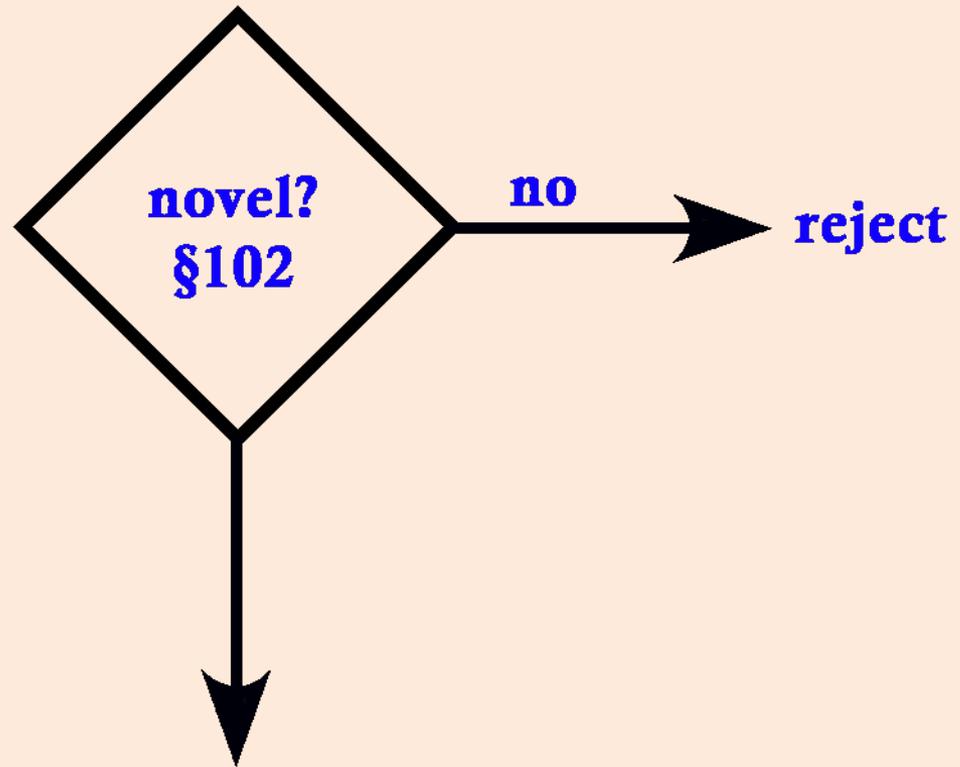
# Solution

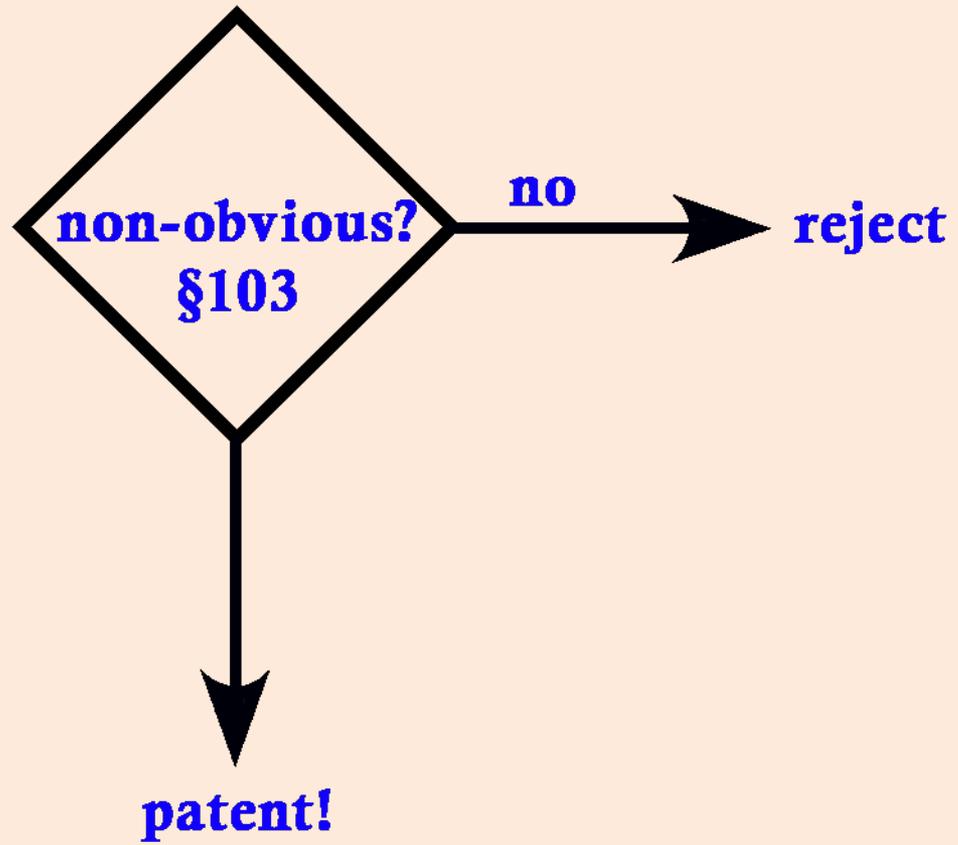
**FLOWCHARTS FOR 35 U.S.C. § 102(e) DATES:**  
**Apply to all applications and patents, whenever filed**  
**Chart I: For U.S. patent or U.S. patent application publication under**  
**35 U.S.C. § 122(b) (includes publications of § 371 applications)**

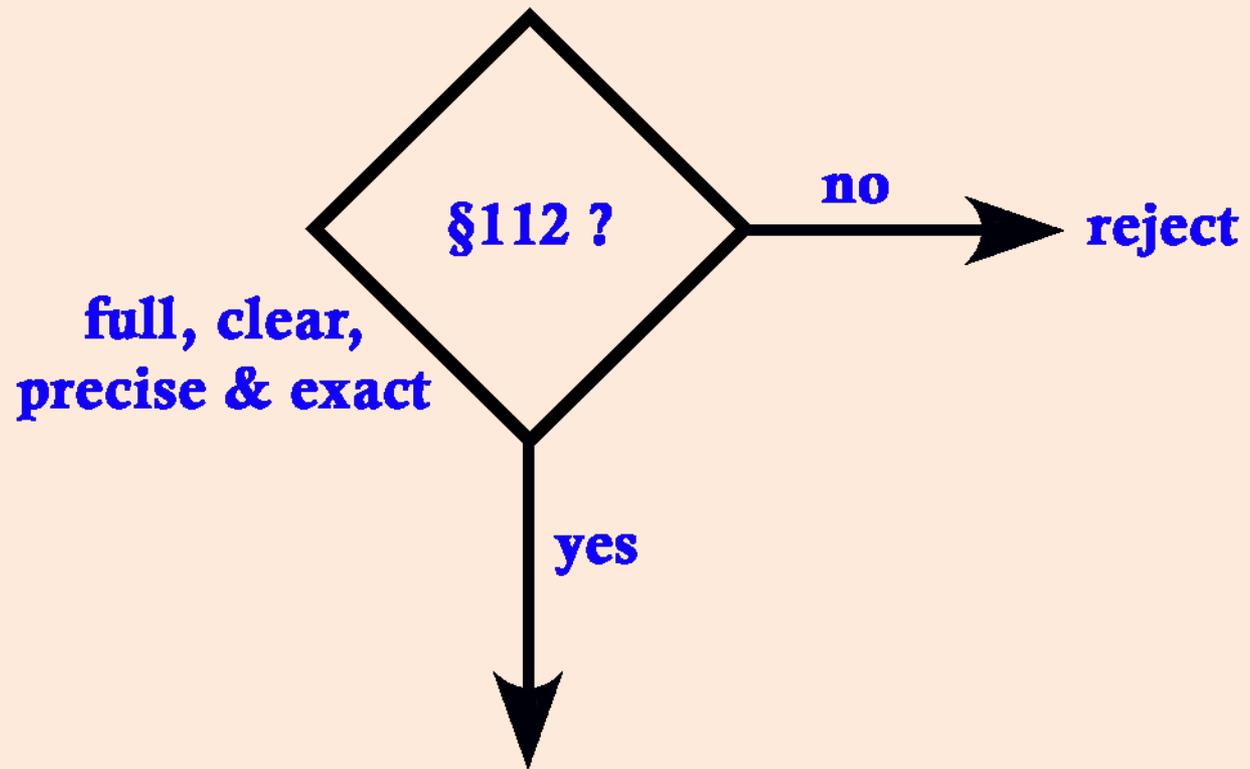


\* Consider benefit claims properly made under § 119(c) to U.S. provisional applications, § 120 to U.S. nonprovisional applications, and § 365(c) involving IAs. Do NOT consider foreign priority claims.

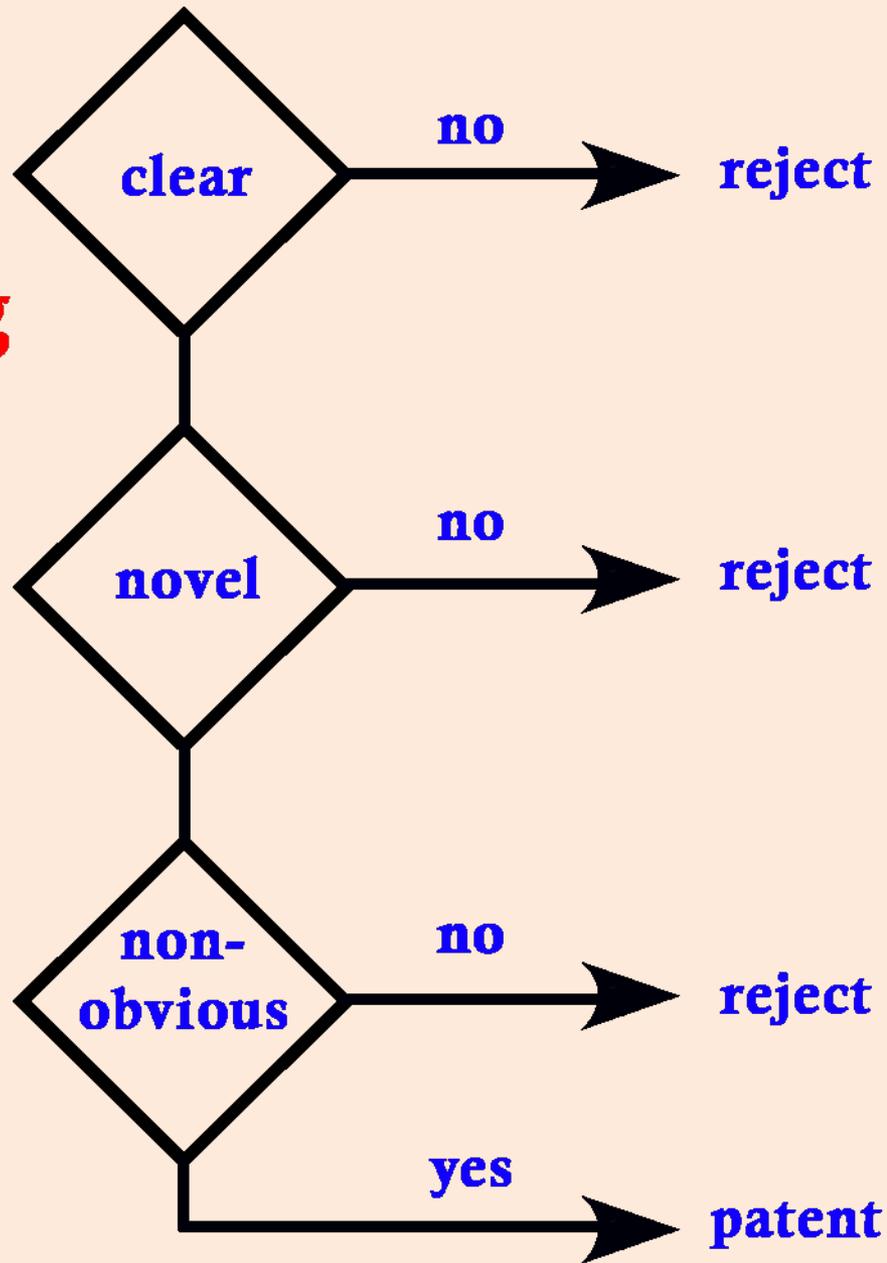




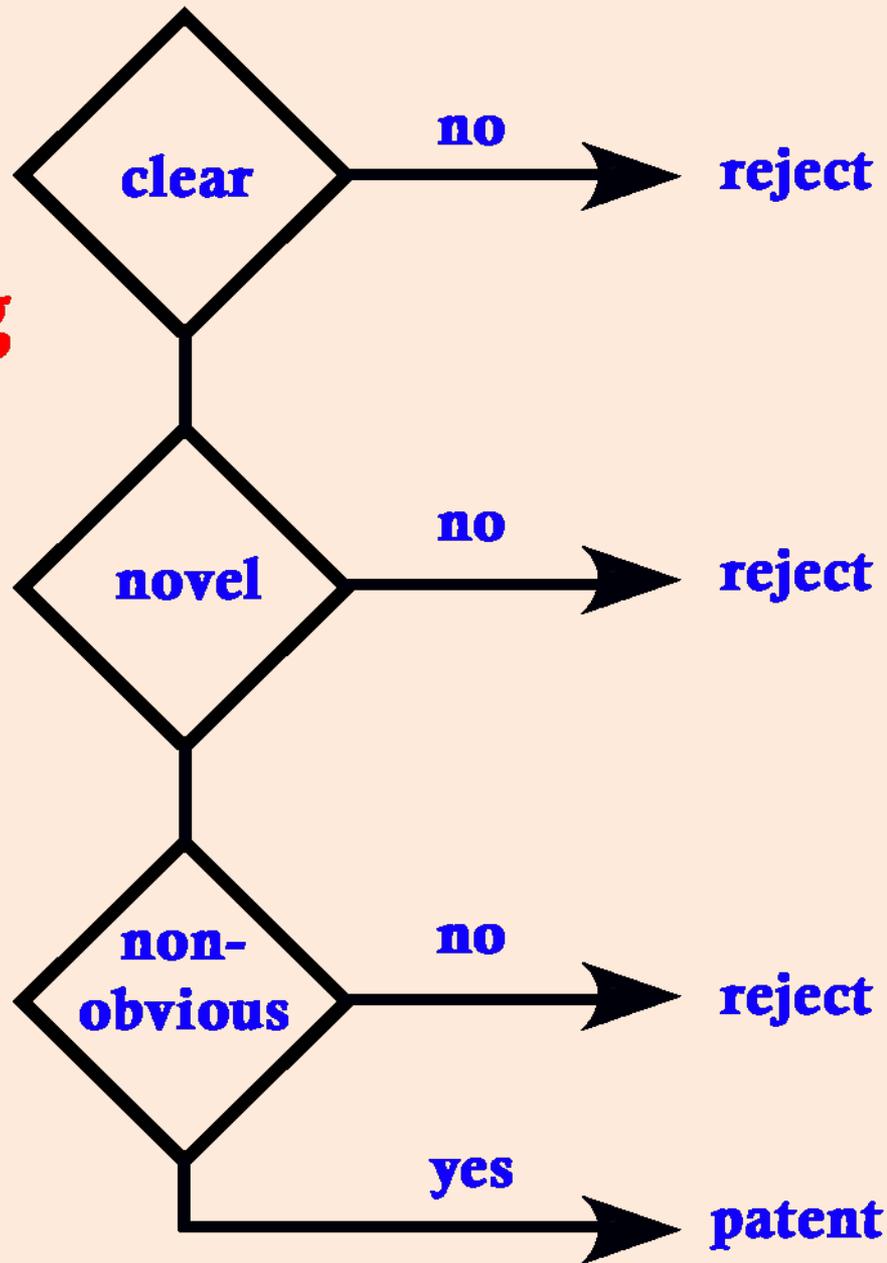




# Flowchart for examining software patents

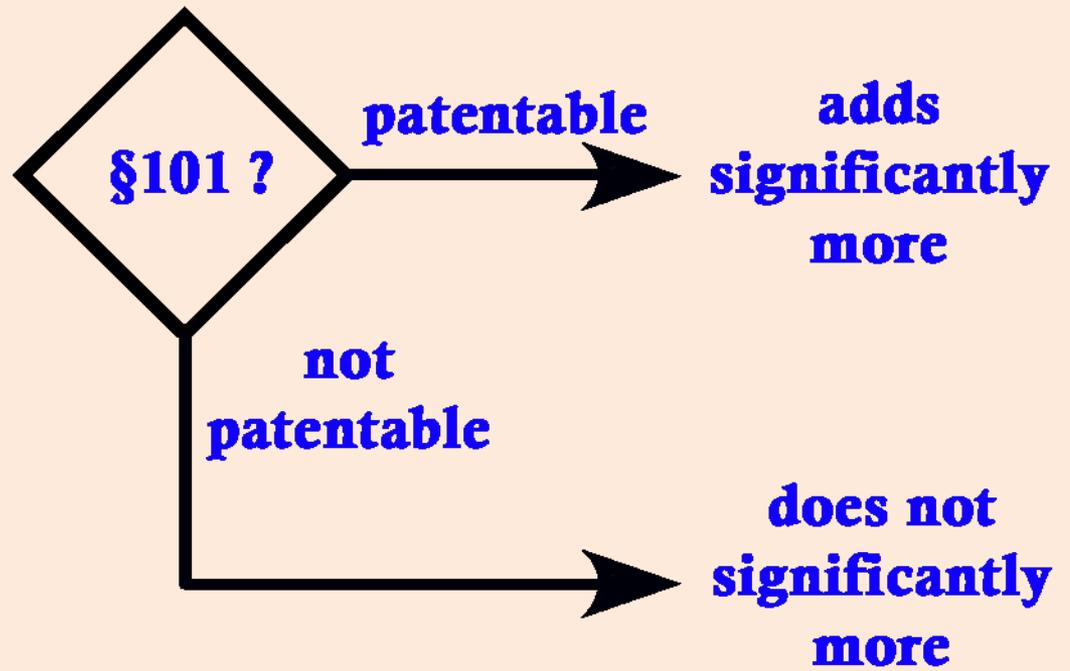


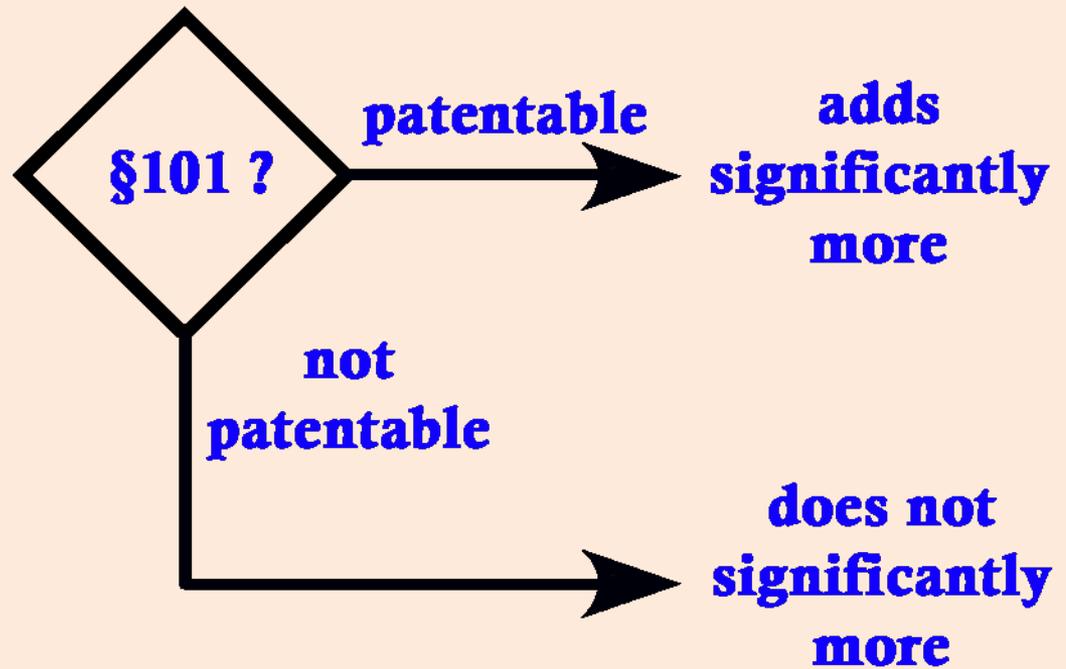
**Flowchart  
for examining  
software  
patents  
and ...  
all  
patents.**



Oops!

What happened to  
§ 101?





**Compatible with SCOTUS opinions  
and USPTO Guidelines.**

“Directed to a new and useful  
technique”

“invention achieves a better way”

Section 101 validity finding under  
*Alice*

—*Rapid Litigation Management v.  
CellzDirect* (Fed. Cir. 2016)

If it is “new” and “better” ...  
clearly these are §102 and §103

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as a software patent

in 7.5 minutes

Electronic circuits have  
schematics.

Mechanical devices have a  
mechanical drawing.

Software methods have code.

*If you don't have code,  
you have an idea, not an  
invention*

# Known art in software:

- language intrinsics
- standard library
- open source
- widely available application,  
like Excel or Matlab
- widely available framework,  
like iOS, Xcode, Android, JAVA, html
- defined in a Standard,  
like an RFC, IEEE, IEC

Question presented:

*How many Supreme Court  
Justices can dance on the head  
of a pin?*

Answer:

*An even number.*

Thank you